

PATENT COOPERATION TREATY

Reitstötter, Kinzebach & Part.

29. Juli 2005

PCT

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

REITSTÖTTER, KINZEBACH & PARTNER
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D-81679 München
ALLEMAGNE

WRITTEN OPINION OF THE INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY (PCT Rule 66)

Date of mailing
(day/month/year)

26.07.2005

Applicant's or agent's file reference
M/45198-PCT

REPLY DUE within 2 month(s) and 14 days
from the above date of mailing

International application No.
PCT/EP2004/008397

International filing date (day/month/year)
27.07.2004

Priority date (day/month/year)
28.07.2003

International Patent Classification (IPC) or both national classification and IPC
C25B11/04, C23C18/02, C01G19/04

Applicant
DE NORA ELETTRODI S.P.A. et al.

1. ☒ The written opinion established by the International Searching Authority:
☒ is ☐ is not
considered to be a written opinion of the International Preliminary Examining Authority
2. This second report contains indications relating to the following items:
 - ☒ Box No. I Basis of the opinion
 - ☐ Box No. II Priority
 - ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Box No. IV Lack of unity of invention
 - ☒ Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Box No. VI Certain documents cited
 - ☐ Box No. VII Certain defects in the international application
 - ☐ Box No. VIII Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(e).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis. For an informal communication with the examiner, see Rule 66.6. For an additional opportunity to submit amendments, see Rule 66.4.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary report on patentability (Chapter II of the PCT) must be established according to Rule 69.2 is: 28.11.2005

Name and mailing address of the international preliminary examining authority:



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9.10.05

**WRITTEN OPINION OF THE INTERNATIONAL
PRELIMINARY EXAMINING AUTHORITY**

10/563852
IAP20 Res'G FST/PTO 05 JAN 2006
International application No.
PCT/EP2004/008397

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this opinion is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed")*:

Description, Pages

1-9 as originally filed

Claims, Numbers

1-25 received on 13.06.2005 with letter of 13.06.2005

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing *(specify)*:
 - ☐ any table(s) related to sequence listing *(specify)*:
 4. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing *(specify)*:
 - ☐ any table(s) related to sequence listing *(specify)*:

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**Box No. V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or
industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	2-8, 16-21,23,25
	No: Claims	1, 9-15, 22,24
Inventive step (IS)	Yes: Claims	2-5,16-21,23
	No: Claims	1,6-15,22, 24, 25
Industrial applicability (IA)	Yes: Claims	1-25
	No: Claims	

2. Citations and explanations:

see separate sheet

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(SEPARATE SHEET)**

1007563852
IAP20 REG. OFFICE PTO 05 JAN 2006
International application No.

PCT/EP2004/008397

Re Item V.

1. The following documents are referred to in this communication:

D1: SU 541 849 A (DOBROKHOTOVA T F) 5 January 1977 (1977-01-05)
D2: EP-A-0 479 423 (ICI PLC) 8 April 1992 (1992-04-08)
D3: US-A-5 868 913 (HODGSON DAVID RONALD) 9 February 1999 (1999-02-09)
D4: US-A-4 941 953 (MATSUMOTO YUKIEI ET AL) 17 July 1990 (1990-07-17)
D5: US-A-5 314 534 (GIERSBERG JOACHIM ET AL) 24 May 1994 (1994-05-24)
D6: US-A-4 873 352 (KOBASHI TOSHIYUKI ET AL) 10 October 1989 (1989-10-10)
D7: EP-A-0 302 738 (JAPAN EXLAN CO LTD) 8 February 1989 (1989-02-08)
D8: GB-A-1 373 712

2. Document D8 cited in this opinion is hereby introduced into the proceedings by the examiner. A copy of D8 has been attached to this opinion.
3. Document D8 discloses a method for the manufacturing of an electrode, comprising the application of a precursor for the pyrolytic formation of a tin-containing coating to a substrate of a valve metal, followed by the execution of thermal treatment, wherein the precursor solution comprises stannic hydroxychloride (see D8, the examples 1 and 6). The presence of both stannous chloride dihydrate and hydrogen peroxide in the solution to be applied to the titanium electrode (e.g. anode) gives necessarily a reaction where the "precursor" solution comprises stannic hydroxychloride, at least in small percentages.

3.1 INDEPENDENT CLAIMS 1, 13, 22

As can be seen from the above, document D8 discloses in combination all the features defined in independent claims 1, 13, 22. Hence the subject-matters of these claims are not new (Article 33(2) PCT).

- 3.2 Document D2 discloses also an electrode (e.g. anode) provided with an electrocatalytic coating comprising tin in form of mixed oxide.

The applicant should note: Claims 13-15 of this application are interpreted as product claims 'per se'. Therefore, any document which discloses such a claimed product - even if obtained by a different process or if used for a different purpose - takes away

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the novelty of the claimed subject-matter. At present no special technical features can be acknowledged for the claimed tin oxide coated anodes.

- 3.3 Document D1 discloses a method for manufacturing of a precursor solution of a tin containing coating comprising the addition of hydrogen peroxide to a stannous chloride solution. It therefore also evidently discloses, at some point, a solution comprising stannic hydroxychloride.
Document D5 also discloses a solution comprising stannic hydroxychloride (see D5, e.g. the claims).

- 3.4 As can be seen from the above, document D2 discloses in combination all the features defined in independent claim 13 and document D1 in combination all the features defined in independent claim 22. Hence the subject-matters of these claims are not new in respect of these documents either (Article 33(2) PCT).
In respect of the applicant's argumentation that the disclosure of D1 has been incorrectly translated, no evidence has been produced to support this statement. Thus, the current objections are maintained. A translation of D1 has been ordered.

4. INDEPENDENT CLAIM 16

None of the available prior art documents discloses a non-stoichiometric stannic

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The closest prior art document in this respect is considered to be D5, that discloses merely a non-stoichiometric stannic hydroxyoxalate but the disclosed stannic hydroxychloride is stoichiometric (the ratio of Sn:Cl should be 1; in D5, see the claims).

With the use of such a non-stoichiometric solution for the manufacture of SnO_2 coatings, coatings with improved stability and electrocatalytic performance are manufactured.

4.1 Claims 17-21 are dependent on claim 16 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

5. DEPENDENT CLAIMS 6-12, 14, 15, 24, 25

Dependent claims 6-12, 14, 15, 24, 25 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT). Especially the novelty of claims 9-12 and 24 is taken away by the disclosures of D1 or D2 or D8 (D2, see the claims; D8 see the examples).

6. DEPENDENT CLAIMS 2-5, 23

The combination of the features of dependent claims 2-5, 23 are neither known from, nor rendered obvious by, the available prior art. The reasons are as follows:

None of the available prior art documents discloses a non-stoichiometric stannic hydroxychloride compound nor a method for its manufacture.

The closest prior art document in this respect is considered to be D5, that discloses merely a non-stoichiometric stannic hydroxyoxalate but the disclosed stannic hydroxychloride is stoichiometric (the ratio of Sn:Cl should be 1; in D5, see the claims).

With the use of such a non-stoichiometric solution for the manufacture of SnO_2 coatings, coatings with improved stability and electrocatalytic performance are manufactured.

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